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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/725,302	12/01/2003	David L. Powell	136089/90 (MHM 15129US01)	2838
23446 7590 01/17/2007 MCANDREWS HELD & MALLOY, LTD 500 WEST MADISON STREET SUITE 3400 CHICAGO, IL 60661			EXAMINER CORBETT, JOHN M	
			ART UNIT	PAPER NUMBER
			2882	

SHORTENED STATUTORY PERIOD OF RESPONSE	MAIL DATE	DELIVERY MODE
3 MONTHS	01/17/2007	PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

If NO period for reply is specified above, the maximum statutory period will apply and will expire 6 MONTHS from the mailing date of this communication.

Office Action Summary	Application No.	Applicant(s)	
	10/725,302	POWELL, DAVID L.	
	Examiner	Art Unit	
	John M. Corbett	2882	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 21 November 2006.
- 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-29 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-29 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 15 April 2004 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Claim Objections

1. Claim 4 is objected to because of the following informalities, which appear to be minor draft errors including grammatical and/or lack of antecedent basis problems.

In the following format (location of objection; suggestion for correction), the following correction(s) may obviate the objection(s):

(Claim 4, line 3, "an fluid outlet"; "a fluid outlet").

Appropriate correction is required.

Claim Rejections - 35 USC § 112

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter, which the applicant regards as his invention.

2. Claims 1-10 and 18-29 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

With respect to claims 1-2, 4, 19 and 25-26, the term "chilled" is a relative term, which renders the claims indefinite. The term "chilled" is not defined by the claims, the specification does not provide a standard for ascertaining the requisite degree, and one of ordinary skill in the

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art would not be reasonably apprised of the scope of the invention. The Applicant has failed to disclose in their specification a temperature to which a cooling unit needs to cool the liquid in order for it to be considered a "chilled" liquid. For examination purposes, the Examiner takes the position that the "chilled" liquid is one in which the liquid is cooled to a temperature below that of the element to which it is intended to cool. Claims 3, 5-10, 20-24 and 27-29 are rejected by virtue of their dependency.

Regarding claim 18, the phrase "may" renders the claim indefinite because it is unclear whether the limitation(s) following the phrase are part of the claimed invention.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

3. Claims 1, 6-7 and 9-10 are rejected under 35 U.S.C. 103(a) as being unpatentable over Innovative Technology Summary Report (ITSR) in view of Baertsch et al. (20020181654), Burke et al. (5,299,249) and Dilick (20010017908).

With respect to claim 1, ITSR teaches a system, comprising:
an imaging device (Page 2, lines 41-43 and Figures 2 and 14) having a main body (Page 4, lines 6-7 and Figure 1) and an imaging element (Page 2, line 42 and Figure 2); and

an auxiliary module (Page 6, line 13 and Figures 5 and 9) connected to said imaging device (Page 7, lines 2-3 and Figure 7) have a cooling unit configured to cool liquid (Page 8, lines 17-18 and Figure 9, i.e. Haskris water-to-air cooler) and circulate the liquid to said imaging element (Page 8, lines 18-20), wherein the liquid absorbs heat produced by said imaging element (Page 8, lines 18-21).

ITSR fails to teach medical imaging. ITSR fails to explicitly teach configuring to cool liquid to a chilled state and circulating the liquid to and from said imaging element. ITSR fails to explicitly teach removably connecting to said imaging device.

Baertsch et al. teaches medical imaging (Paragraph 4 and Figure 1).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the system of ITSR to include the medical imaging of Baertsch et al., since imaging for medical and industrial applications are two art recognized equivalents (Paragraph 4) as shown by Baertsch et al. and require no more than ordinary skill in the art to substitute. One of ordinary skill in the art would have been motivated to make such a modification to obtain more information to better diagnosis a patient's medical condition (Paragraph 4) as implied by Baertsch et al.

Burke et al. teaches configuring to cool liquid to a chilled state (Col. 4, line 67 - Col. 5, line 2) and circulating the liquid to (Col. 5, line 2) and from (Col. 4, lines 67-68) said imaging element.

It would have been obvious to one of ordinary skill in the art at the time the invention was made to include in the system of ITSR as modified above the chilled liquid and circulation of Burke et al., since a person would have been motivated to make such a modification to

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remove more heat (Col. 3, lines 16-17) for enabling higher power systems as implied by Burke et al. and to reduce waste.

Dilick teaches removably connecting to said imaging device (Paragraph 60 and Figures 5 and 10).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to include in the system of ITSR as modified above the removable connection of Dilick, since a person would have been motivated to make such a modification to more easily perform preventive maintenance on the imaging element (Paragraph 17 and Figure 5) as implied by Dilick.

Note: Removably connected means “capable of being connected and subsequently reconnected” which is not a positive limitation but only requires the ability to so perform. It does not constitute a limitation in any patentable sense.

With respect to claim 6, ITSR further teaches wherein said auxiliary module is mobile (Title and Figure 5).

With respect to claim 7, ITSR as modified above suggests the system as recited above. ITSR as modified above fails to explicitly teach permanently affixing to one of a floor and a wall.

It would have been obvious for one of ordinary skill in the art at the time the invention was made to include in the system of ITSR as modified above permanent affixation, since permanent affixation and mobility are well known art recognized equivalents for supporting

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equipment and require no more than ordinary skill in the art to substitute. A person would have been motivated to make the system of ITSR permanently affixed to the floor to increase the stability of the system and reduce the likelihood of inadvertently uncoupling the components by moving the components relative to one another during imaging.

With respect to claim 9, ITSR further teaches wherein said auxiliary module is remotely located from said medical imaging device (Page 8, lines 20-24).

With respect to claim 10, ITSR further teaches wherein said auxiliary module includes a rolling cart that supports said cooling unit (Page 8, line 23 and Figure 9).

4. Claims 2-5 are rejected under 35 U.S.C. 103(a) as being unpatentable over ITSR, Baertsch et al., Burke et al. and Dilick as applied to claim 1 above, and further in view of Klostermann (5,185,774).

With respect to claim 2, ITSR as modified above suggests the system as recited above. ITSR further teaches wherein said imaging element includes an X-ray tube (Page 8, lines 18-21). ITSR as modified above fails to explicitly teach wherein said cooling unit circulates the chilled liquid at least one of over and within said imaging element.

Klostermann teaches wherein said cooling unit circulates the chilled liquid within said imaging element (Col. 9, line 51 - Col. 10, line 4 and Figure 19).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to include in the system of ITSR as modified above the circulating within of Klostermann, since a person would have been motivated to make such a modification to increase power capacities (Col. 1, lines 14-16 and Col. 10, lines 14-17) as taught by Klostermann.

With respect to claim 3, ITSR further teaches a C-arm supported by said main body, wherein said x-ray tube is positioned on an end of said C-arm (Figures 1 and 2).

With respect to claim 4, ITSR as modified above suggests the system as recited above.

Burke et al. further teaches a fluid input line in fluid communication with said cooling unit and said fluid inlet, wherein the chilled liquid is supplied from said cooling unit through said fluid input line (Col. 5, lines 2-3, lines 7-8, and Figure 1); and

a fluid return line in fluid communication with said cooling unit and said fluid outlet, wherein the chilled liquid is returned to said cooling unit through said fluid return line (Col. 4, line 67 – Col. 5, line 1, Col. 5, line 8, and Figure 1).

ITSR as modified above fails to explicitly teach a cooling duct surrounding at least a portion of said imaging element, said cooling duct having a fluid inlet and a fluid outlet.

Klostermann teaches a cooling duct (316) surrounding at least a portion of said imaging element (Figures 2 and 19), said cooling duct having a fluid inlet (319) and a fluid outlet (321).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to include in the system of ITSR as modified above the duct and fluid inlet and outlet of Klostermann, since a person would have been motivated to make such a modification to

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increase power capacities (Col. 1, lines 14-16 and Col. 10, lines 14-17) as taught by Klostermann.

With respect to claim 5, Dilick further teaches removably connecting to said imaging element (Paragraph 60 and Figures 5 and 10).

Note: Removably connected means "capable of being connected and subsequently reconnected" which is not a positive limitation but only requires the ability to so perform. It does not constitute a limitation in any patentable sense.

5. Claim 8 is rejected under 35 U.S.C. 103(a) as being unpatentable over ITSR, Baertsch et al., Burke et al. and Dilick as applied to claim 1 above, and further in view of Yahata et al. (5,226,064).

With respect to claim 8, ITSR as modified above suggests the system as recited above. ITSR as modified above fails to teach a booster battery pack, wherein said booster battery pack is configured to be electrically connected to said medical imaging device in order to provide additional power to said medical imaging device.

Yahata et al. teaches a booster battery pack (5), wherein said booster battery pack is configured to be electrically connected to said medical imaging device (Figures 2 and 3) in order to provide additional power to said medical imaging device (Col. 4, lines 58-62).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to include in the system of ITSR as modified above the booster battery pack of Yahata

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et al., since a person would have been motivated to make such a modification to reduce the demands on a commercial power source thereby reducing overall operating expenses of the system (Col. 1, lines 41-48 and Col. 5, lines 1-11) as taught by Yahata et al.

6. Claim 11-17 are rejected under 35 U.S.C. 103(a) as being unpatentable over ITSR in view of Baertsch et al., Yahata et al. and Muchowicz et al. (5,310,361).

With respect to claim 11, ITSR teaches a system, comprising:

an imaging device (Page 2, lines 41-43 and Figures 2 and 14) having a main body (Page 4, lines 6-7 and Figure 1) and an imaging element (Page 2, line 42 and Figure 2); and

an auxiliary module (Page 6, line 13 and Figures 5 and 9) connected to the imaging device (Page 7, lines 2-3 and Figure 7), wherein said auxiliary module is separate, distinct, and connected directly to said imaging device (Page 8, lines 13-24 and Figure 9).

ITSR fails to teach medical imaging; and

a booster battery pack, wherein said booster battery pack is configured to be electrically connected to the medical imaging device in order to provide additional power to the medical imaging device.

ITSR further fails to explicitly teach removably connecting to said imaging device.

Baertsch et al. teaches medical imaging (Paragraph 4 and Figure 1).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the system of ITSR to include the medical imaging of Baertsch et al., since imaging for medical and industrial applications are two art recognized equivalents (Paragraph 4)

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as shown by Baertsch et al. and require no more than ordinary skill in the art to substitute. One of ordinary skill in the art would have been motivated to make such a modification to obtain more information to better diagnosis a patient's medical condition (Paragraph 4) as implied by Baertsch et al.

Yahata et al. teaches a booster battery pack (5), wherein said booster battery pack is configured to be electrically connected to said medical imaging device (Figures 2 and 3) in order to provide additional power to the medical imaging device (Col. 4, lines 58-62).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to include in the system of ITSR as modified above the booster battery pack of Yahata et al., since a person would have been motivated to make such a modification to reduce the demands on a commercial power source thereby reducing overall operating expenses of the system (Col. 1, lines 41-48 and Col. 5, lines 1-11) as taught by Yahata et al.

Muchowicz et al. teaches removably connecting to said imaging device (Col. 2, lines 48-52).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to include in the system of ITSR as modified above the removable connection of Muchowicz et al., since a person would have been motivated to make such a modification to more easily repair or replace a power cable (Col. 4, lines 5-7) as implied by Muchowicz et al.

Note: Removably connected means "capable of being connected and subsequently reconnected" which is not a positive limitation but only requires the ability to so perform. It does not constitute a limitation in any patentable sense.

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With respect to claim 12, ITSR further teaches wherein the imaging device is an x-ray system (Title) and said imaging element includes an x-ray tube (Figure 5).

With respect to claim 13, ITSR further teaches a C-arm supported by said main body, wherein said x-ray tube is positioned on an end of said C-arm (Figures 1 and 2).

With respect to claim 14, ITSR further teaches wherein said auxiliary module is mobile (Title and Figure 5).

With respect to claim 15, ITSR as modified above suggests the system as recited above. ITSR as modified above fails to explicitly teach permanently affixing to one of a floor and a wall.

It would have been obvious for one of ordinary skill in the art at the time the invention was made to include in the system of ITSR as modified above permanent affixation, since permanent affixation and mobility are well known art recognized equivalents for supporting equipment and require no more than ordinary skill in the art to substitute. A person would have been motivated to make the system of ITSR permanently affixed to the floor to increase the stability of the system and reduce the likelihood of inadvertently uncoupling the components by moving the components relative to one another during imaging.

With respect to claim 16, ITSR further teaches wherein said auxiliary module is remotely located from said main body (Page 8, lines 20-24).

With respect to claim 17, ITSR further teaches wherein said auxiliary module includes a rolling cart that supports (Page 8, line 23 and Figure 9).

7. Claim 18 is rejected under 35 U.S.C. 103(a) as being unpatentable over ITSR in view of Baertsch et al., Yahata et al. and Muchowicz et al. as applied to claim 11 above, and further in view of Anderton (Re-35,025).

With respect to claim 18, ITSR as modified above suggests the system as recited above. ITSR further teaches wherein said auxiliary module further comprises a power cable electrically connected (Page 8, lines 20-24 and Figure 5). Muchowicz et al. further teaches wherein said power cable (14) is removably connected (Col. 2, lines 48-52) to a body.

ITSR as modified above fails to teach wherein a main body further comprises a power receptacle electrically connected to a power supply system, wherein said power cable is removably connected to said power receptacle so that the power supply system draws power.

Anderton teaches wherein a main body further comprises a power receptacle (17) electrically connected to a power supply system (Figure 3), wherein said power cable is removably connected to said power receptacle so that the power supply system draws power (Figure 2, interconnect cable).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to include in the system of ITSR as modified above the power receptacle of Anderton, since a person would have been motivated to make such a modification to improve mobility of

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the imaging device by disconnecting the power cable during transport and subsequently reconnecting once the imaging device is positioned (Col. 2, lines 68 - Col. 3, line 4) as implied by Anderton.

Note: Removably connected means “capable of being connected and subsequently reconnected” which is not a positive limitation but only requires the ability to so perform. It does not constitute a limitation in any patentable sense.

8. Claims 19-24 are rejected under 35 U.S.C. 103(a) as being unpatentable over ITSR in view of Baertsch et al., Burke et al., Yahata et al., Dilick and Muchowicz et al.

With respect to claim 19, ITSR teaches an apparatus comprising:

a cooling unit (Page 8, lines 17-18 and Figure 9, i.e. Haskris water-to-air cooler) configured to cool liquid and circulate liquid to the imaging element (Page 8, lines 18-20), wherein the liquid absorbs heat produced by the imaging element (Page 8, lines 18-20).

ITSR fails to explicitly teach configuring to cool liquid to a chilled state and circulating the liquid to and from said imaging element. ITSR also fails to explicitly teach said auxiliary module being removably connected to said medical imaging device.

ITSR fails to teach medical imaging; and

a booster battery pack, wherein said booster battery pack is configured to be electrically connected to the medical imaging system in order to provide additional power to the medical imaging system.

Baertsch et al. teaches medical imaging (Paragraph 4 and Figure 1).

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It would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the system of ITSR to include the medical imaging of Baertsch et al., since imaging for medical and industrial applications are two art recognized equivalents (Paragraph 4) as shown by Baertsch et al. and require no more than ordinary skill in the art to substitute. One of ordinary skill in the art would have been motivated to make such a modification to obtain more information to better diagnosis a patient's medical condition (Paragraph 4) as implied by Baertsch et al.

Burke et al. teaches configuring to cool liquid to a chilled state (Col. 4, line 67 - Col. 5, line 2) and circulating the liquid to (Col. 5, line 2) and from (Col. 4, lines 67-68) said imaging element.

It would have been obvious to one of ordinary skill in the art at the time the invention was made to include in the system of ITSR as modified above the chilled liquid and circulation of Burke et al., since a person would have been motivated to make such a modification to remove more heat (Col. 3, lines 16-17) for enabling higher power systems as implied by Burke et al. and to reduce waste.

Yahata et al. teaches a booster battery pack (5), wherein said booster battery pack is configured to be electrically connected to said medical imaging device (Figure 3) in order to provide additional power to said medical imaging device (Col. 4, lines 58-62).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to include in the system of ITSR as modified above the booster battery pack of Yahata et al., since a person would have been motivated to make such a modification to reduce the

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demands on a commercial power source thereby reducing overall operating expenses of the system (Col. 1, lines 41-48 and Col. 5, lines 1-11) as taught by Yahata et al.

Dilick teaches removably connecting (cooling) to said imaging device (Paragraph 60 and Figures 5 and 10).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to include in the system of ITSR as modified above the removable connection of Dilick, since a person would have been motivated to make such a modification to more easily perform preventive maintenance on the imaging element (Paragraph 17 and Figure 5) as implied by Dilick.

Muchowicz et al. teaches removably connecting (power) to said imaging device (Col. 2, lines 48-52).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to include in the system of ITSR as modified above the removable connection of Muchowicz et al., since a person would have been motivated to make such a modification to more easily repair or replace a power cable (Col. 4, lines 5-7) as implied by Muchowicz et al.

Note: Removably connected means “capable of being connected and subsequently reconnected” which is not a positive limitation but only requires the ability to so perform. It does not constitute a limitation in any patentable sense.

With respect to claim 20, ITSR further teaches wherein the imaging element includes an x-ray tube (Figure 2) and the imaging device is an x-ray imaging system (Figure 14).

With respect to claim 21, ITSR further teaches wherein the x-ray imaging system includes a C-arm having a first and second prong (Figure 6), wherein the x-ray tube is positioned on the first prong, and a detector is positioned on the second prong (Page 7, lines 1-8 and Figures 1 and 6).

With respect to claim 22, ITSR further teaches a cart supporting said power and said cooling-unit (Page 8, lines 13-14 and Figure 9), and wherein said cart is mobile (Title).

With respect to claim 23, ITSR as modified above suggests the system as recited above. ITSR as modified above fails to explicitly teach permanently affixing to one of a floor and a wall.

It would have been obvious for one of ordinary skill in the art at the time the invention was made to include in the system of ITSR as modified above permanent affixation, since permanent affixation and mobility are well known art recognized equivalents for supporting equipment and require no more than ordinary skill in the art to substitute. A person would have been motivated to make the system of ITSR permanently affixed to the floor to increase the stability of the system and reduce the likelihood of inadvertently uncoupling the components by moving the components relative to one another during imaging.

With respect to claim 24, ITSR further teaches wherein the auxiliary module is separate and distinct from the imaging device (Figures 5 and 9).

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9. Claims 25-28 are rejected under 35 U.S.C. 103(a) as being unpatentable over ITSR in view of Burke et al., Klostermann and Dilick.

With respect to claim 25, ITSR teaches a method of cooling the x-ray tube comprising: operatively connecting (Page 8, lines 18-24) an auxiliary module having a cooling unit (Page 8, lines 17-18 and Figure 9, i.e. Haskris water-to-air cooler) to the mobile x-ray device (Title, Page 4, lines 6-7 and Figure 1);

cooling liquid (Page 8, lines 17-18) with the cooling unit (Page 6, lines 17-18); and passing the liquid from the cooling unit to the x-ray tube (Page 7, line 2, Page 8, lines 17-24 and Figure 5).

ITSR fails to explicitly teach producing chilled liquid and circulating the liquid around at least a portion of the x-ray tube such that the chilled liquid absorbs heat produced by the x-ray tube during an x-ray imaging procedure. ITSR also fails to explicitly teach connecting in a removable fashion.

Burke et al. teaches producing chilled liquid (Col. 4, line 68 - Col. 5, line 2).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to include in the method of ITSR as modified above the chilled liquid of Burke et al., since a person would have been motivated to make such a modification to remove more heat (Col. 3, lines 16-17) for enabling higher power systems as implied by Burke et al.

Klostermann teaches circulating the chilled liquid around at least a portion of the x-ray tube such that the chilled liquid absorbs heat produced by the x-ray tube during an x-ray imaging procedure (Col. 9, line 51 - Col. 10, line 4 and Figure 19).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to include in the method of ITSR as modified above the circulating within of Klostermann, since a person would have been motivated to make such a modification to increase power capacities (Col. 1, lines 14-16 and Col. 10, lines 14-17) as taught by Klostermann.

Dilick teaches connecting in a removable fashion (Paragraph 60 and Figures 5 and 10).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to include in the method of ITSR as modified above the removable connection of Dilick, since a person would have been motivated to make such a modification to more easily perform preventive maintenance on the imaging element (Paragraph 17 and Figure 5) as implied by Dilick.

With respect to claim 26, Klostermann further teaches providing a cooling duct (316) around at least a portion of the x-ray tube (Figure 19), wherein said passing includes passing the chilled liquid (Col. 10, lines 1-2) from the cooling unit to the x-ray tube (Col. 10, lines 2-4) through a first tube that is in fluid communication with the cooling unit and the cooling duct (Col. 9, lines 62-66); and

returning the chilled liquid back to the cooling unit through a second tube that is in fluid communication with the cooling unit and the cooling duct (Col. 9, line 66 – Col. 10, line 4).

With respect to claim 27, ITSR as modified above suggests the method as recited above. ITSR as modified above fails to explicitly teach permanently affixing to one of a floor and a wall.

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It would have been obvious for one of ordinary skill in the art at the time the invention was made to include in the method of ITSR as modified above permanent affixation, since permanent affixation and mobility are well known art recognized equivalents for supporting equipment and require no more than ordinary skill in the art to substitute. A person would have been motivated to make such a modification to increase the stability of the system and reduce the likelihood of inadvertently uncoupling the components by moving the components relative to one another during imaging.

With respect to claim 28, ITSR further teaches remotely locating the auxiliary module from the x-ray device (Page 8, lines 20-24 and Figures 1, 5 and 9).

10. Claim 29 is rejected under 35 U.S.C. 103(a) as being unpatentable over ITSR in view of Burke et al., Klostermann and Dilick as applied to claim 25 above, and further in view of Yahata et al.

With respect to claim 29, ITSR as modified above suggests the method as recited above.

ITSR as modified above fails to teach

providing a booster battery pack; and

electrically connecting the booster battery pack to the x-ray device so that the x-ray device draws power from the booster battery pack.

Yahata et al. teaches providing a booster battery pack (5) ; and

electrically connecting the booster battery pack to the x-ray device (Figure 3) so that the x-ray device draws power from the booster battery pack (Col. 4, lines 58-62).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to include in the method of ITSR as modified above the booster battery pack of Yahata et al., since a person would have been motivated to make such a modification to reduce the demands on a commercial power source thereby reducing overall operating expenses of the system (Col. 1, lines 41-48 and Col. 5, lines 1-11) as taught by Yahata et al.

Response to Arguments

11. Applicant's arguments, see page 11, lines 14-15, filed 21 November 2006, with respect to the rejection(s) of claim(s) 11-15 and 18 under 102(b) have been fully considered and are persuasive. Therefore, the rejection has been withdrawn. However, upon further consideration, a new ground(s) of rejection is made in view of ITSR, Baertsch et al., Yahata et al. and Muchowicz et al.

12. Applicant's arguments filed 21 November 2006 have been fully considered but they are not persuasive.

The Applicant argues that cooling units do not cool liquid to a chilled state. The Examiner disagrees. The term chilled is a relative term to which the Applicant has not assigned a special definition nor supplies support in the specification for a temperature at which the liquid is

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cooled to at which point the liquid is considered to be chilled (See 112 2nd paragraph rejection above). Therefore, the Examiner takes the position that the “chilled” liquid is one in which the liquid is cooled to a temperature below that of the element to which it is intended to cool as applied to Burke et al. In summary, the Applicant’s arguments with regards to cooling devices not cooling liquid to a chilled state are not persuasive.

The Applicant argues that prior art cited fails to teach “removably connect”. The Examiner disagrees. In support of their argument, the Applicant cites structure from the specification (See page 12, lines 1-4). In response to applicant's argument that the references fail to show certain features of applicant’s invention, it is noted that the features upon which applicant relies (i.e., “fluid inlets 48, 56 and fluid outlets 44 and 54 include structures, such as check valves”) are not recited in the rejected claim(s). Although the claims are interpreted in light of the specification, limitations from the specification are not read into the claims.

Conclusion

13. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Jensen et al. (“X-ray, K-Edge Measurement of Uranium Concentration in Reactor Fuel Plates”) explicitly discloses the cooling system of ITSR has a pump and two cooling hoses attach the cooling unit to the tube head (Figure 3).

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Any inquiry concerning this communication or earlier communications from the examiner should be directed to John M. Corbett whose telephone number is (571) 272-8284.

The examiner can normally be reached on M-F 8 AM - 4:30 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Edward J. Glick can be reached on (571) 272-2490. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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8 January 2007 JMC

CK


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